

57

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/696,776	HUITEMA, CHRISTIAN	
	<b>Examiner</b>	<b>Art Unit</b>	
	Raj K. Jain	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/30/03.
2. ☒ The allowed claim(s) is/are 1,2,5,7-10,13,15,16 renumbered 1-10.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application                     |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date <u>10/30/03</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                   |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                   | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|  | 9. <input type="checkbox"/> Other _____   |

## DETAILED ACTION

### EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Bill Kramer on 27 April 07.

Cancel claims 3, 4, 6, 11, 12, 14 and 17-21.

Amend claims 1, 5, 9 and 13 as follows,

1. (Currently amended) A method for detecting and repairing a cloud partition in a network, wherein a cloud includes a plurality of nodes, each node having a peer identifier (ID) and a cache of peer IDs for one or more known nodes, the method comprising:

requesting identification information for an adjacent node from a server node;  
receiving identification information for a closest-match node that is a closest found match for the adjacent node,; and if a peer ID for the closest-match node is not in the cache, determining that the cloud is partitioned, and sending a repair message to a known node indicating the identification information for the closest-match node,; and wherein the cache is a multilevel cache, and wherein a host node records an entry for a known node in a level of the multilevel cache in accordance with a distance between a peer ID of the known node and a peer ID of the host node, and wherein entries for

Art Unit: 2616

known nodes closest to the host node are recorded in a lowest level of the cache, than flooding the identification information of the host node to the closest-match node and of the closest-match node to nodes having entries in the lowest cache level; and further determining that the closest-match node is in a larger partition when the closest-match node is closer than every node in the cache, and sending each node in a top level of the cache a repair message including a peer ID and an address for a node in the larger partition, and a repair level indicating repair is required for a cache level immediately below the top level.

5. (Currently amended) The method of claim 4 1 further comprising receiving a flood message from a node in a different partition of the cloud.

9. (Currently amended) A method for detecting and repairing a cloud partition in a network, wherein a cloud includes a plurality of nodes, each node having a peer identifier (ID) and a cache of peer IDs for one or more known nodes, the method comprising:

receiving a repair message at a host node including identification information for a first node;

requesting from the first node identification information for a second node that is adjacent to the host node;

receiving identification information for a closest-match node that is a closest found match for the second node; and if a peer ID for the closest-match node is not in

the cache, determining that the cloud is partitioned, and sending a repair message to a known node indicating the identification information for the closest-match node,; and wherein the cache is a multilevel cache, and wherein a host node records an entry for a known node in a level of the multilevel cache in accordance with a distance between a peer ID of the known node and a peer ID of the host node, and wherein entries for known nodes closest to the host node are recorded in a lowest level of the cache, than flooding the identification information of the host node to the closest-match node and of the closest-match node to nodes having entries in the lowest cache level; and further wherein the repair message includes a repair level L, determining that the closest-match node is in a larger partition when the closest-match node is closer than every node in the cache, and sending each node in a level of the cache equal to L a repair message including a peer ID and an address for a node in the larger partition, and a repair level equal to L+1.

13. (Currently amended) The method of claim 42 9 further comprising receiving a flood message from a node in a different partition of the cloud.

***Allowable Subject Matter***

The following is an examiner's statement of reasons for allowance:

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

Art Unit: 2616

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Claims 1, and 9 are allowed. The prior art discloses a method for detecting and repairing a cloud partition in a network, wherein a cloud includes a plurality of nodes, each node having a peer identifier (ID) and a cache of peer IDs for one or more known nodes, and furthermore, flooding an identification information of a host node to a closest-match node and of the closest-match node to nodes having entries in a lowest cache level.

The prior art however fails to disclose determining that the closest-match node is in a larger partition when the closest-match node is closer than every node in the cache, and sending each node in a top level of the cache a repair message including a peer ID and an address for a node in the larger partition, and a repair level indicating repair is required for a cache level immediately below the top level.


### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raj K. Jain whose telephone number is 571-272-3145. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2616

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**Raj K. Jain**  
  
**Art Unit 2616**

April 29, 2007